WHAT IS CLAIMED IS:

1   1.   A method for determining locations of interest for a route, the method

2   comprising:

3   accessing shape points that correspond to a route from an origin to a destination;

4   identifying a portion of a grid that corresponds to a shape point;

5   identifying locations of interest that are associated with the identified portion of

6   the grid; and

7   identifying at least some of the identified locations of interest as locations of

8   interest for the route.

1   2.   The method of claim 1 wherein the locations of interest for the route are

2   identified by at least identifying portions of the grid that have been redundantly identified

3   and eliminating the redundantly identified portions of the grid such that only non-

4   redundant portions of the grid are identified as locations of interest for the route.

1   3.   The method of claim 1 wherein identifying at least some of the identified

2   locations of interest as locations of interest for the route comprises eliminating any

3   retrieved location of interest if it is not within a predetermined distance of a point along

4   the route.

1   4.   The method of claim 1 wherein identifying at least some of the identified

2   locations of interest as locations of interest for the route comprises eliminating any

3   retrieved location of interest if it is not within a predetermined driving distance of the

4   route.

1   5.   The method of claim 1 wherein:

2   the grid is a multiple-level grid hierarchy, and

3   identifying the portion of a grid that corresponds to a shape point comprises

4   associating, with an accessed shape point, a spatial identifier of a portion of the multiple-

5   level grid hierarchy, and

6   retrieving locations of interest that are associated with a portion of the grid

7   comprises retrieving locations of interest that are associated with a spatial identifier of a

8   portion of the multiple-level grid hierarchy.

1   6.   The method of claim 5 wherein each level of the multiple-level grid

2   hierarchy includes four quadrants.

1   7.   The method of claim 1 wherein locations of interest are determined by an

2   on-board vehicle navigation system.

1   8.   The method of claim 1 further comprising displaying the identified

2   locations of interest using a personal digital assistant.

1   9.   The method of claim 1 further comprising displaying the identified

2   locations of interest using an on-board navigation system.

1   10.   The method of claim 1 wherein a location of interest is identified based on

2   an indirect association between a location of interest and a shape point.

1   11.   A computer-readable medium or propagated signal having embodied

2   thereon a computer program configured to determine locations of interest for a route, the

3   medium or signal comprising one or more code segments configured to:

4   access shape points that correspond to a route from an origin to a destination;

5   identify a portion of a grid that corresponds to a shape point;

6   identify locations of interest that are associated with the identified portion of the

7   grid; and

8   identify at least some of the identified locations of interest as locations of interest

9   for the route.

1   12.   The medium of claim 11 wherein the one or more code segments are

2   configured to identify locations of interest for the route by at least identifying portions of

3   the grid that have been redundantly identified and eliminating the redundantly identified

4   portions of the grid such that only non-redundant portions of the grid are identified as

5   locations of interest for the route.

1   13.   The medium of claim 11 wherein the one or more code segments

2   configured to identify at least some of the identified locations of interest as locations of

3   interest for the route comprise one or more code segments configured to eliminate a

4   retrieved location of interest if it is not within a predetermined distance of the route.

1   14.   The medium of claim 11 wherein the one or more code segments

2   configured to identify at least some of the identified locations of interest as locations of

3   interest for the route comprise one or more code segments configured to eliminate any

4   retrieved location of interest that is not within a predetermined driving distance of the

5   route.

1   15.   The medium of claim 11 wherein:

2   the grid is a multiple-level grid hierarchy, and

3   the one or more code segments configured to identify the portion of a grid that

4   corresponds to a shape point comprise one or more code segments configured to

5   associate, with an accessed shape point, a spatial identifier of a portion of the multiple-

6   level grid hierarchy, and

7   the one or more code segments configured to retrieve locations of interest that are

8   associated with a portion of the grid comprise one or more code segments configured to

9   retrieve locations of interest that are associated with a spatial identifier of a portion of the

10   multiple-level grid hierarchy.

1   16.   The medium of claim 15 wherein each level of the multiple-level grid

2   hierarchy includes four quadrants.

1   17.   The medium of claim 11 wherein the one or more code segments are

2   configured to identify a location of interest based on an indirect association between a

3   location of interest and a shape point.

1   18.   A system for determining locations of interest for a route, the system

2   comprising a processor connected to a storage device and one or more input/output

3   devices, wherein the processor is configured to:

4   access shape points that correspond to a route from an origin to a destination;

5   identify a portion of a grid that corresponds to a shape point;

6   identify locations of interest that are associated with the identified portion of the

7   grid; and

8   identify at least some of the identified locations of interest as locations of interest

9   for the route.

1   19.   The system of claim 18 wherein the processor is configured to identify

2   locations of interest for the route by at least identifying portions of the grid that have been

3   redundantly identified and eliminating the redundantly identified portions of the grid

4   such that only non-redundant portions of the grid are identified as locations of interest for

5   the route.

1   20.   The system of claim 18 wherein the processor configured to identify at

2   least some of the identified locations of interest as locations of interest for the route

3   comprises a processor configured to eliminate a retrieved location of interest if it is not

4   within a predetermined distance of a point along the route.

1   21.   The system of claim 18 wherein the processor configured to identify at

2   least some of the identified locations of interest as locations of interest for the route

3   comprises a processor configured to eliminate a retrieved location of interest if it is not

4   within a predetermined driving distance of the route.

1   22.   The system of claim 18 wherein:

2   the grid is a multiple-level grid hierarchy, and

3   the processor configured to identify the portion of a grid that corresponds to a

4   shape point comprises a processor configured to associate, with an accessed shape point,

5   a spatial identifier of a portion of the multiple-level grid hierarchy, and

6   the processor configured to retrieve locations of interest that are associated with a

7   portion of the grid comprises a processor configured to retrieve locations of interest that

8   are associated with a spatial identifier of a portion of the multiple-level grid hierarchy.

1   23.   The system of claim 22 wherein each level of the multiple-level grid

2   hierarchy includes four quadrants.

1   24.   The system of claim 18 wherein the processor is configured to identify a

2   location of interest is based on an indirect association between a location of interest and a

3   shape point.